

Holiness to the Lord!

# The Juvenile Instructor



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## THE KINDERGARTEN.

WE give you herewith a picture of a KINDERGARTEN. We imagine we hear our readers say, "A Kindergarten? What is a Kindergarten?"

*Kindergarten* means a garden of children. FREIDRICH FROEBEL, a German educator, born in 1782, founded a school which he called by this name, and his ideas have been found by practice to be so excellent that in his own country schools of this kind have become very common

make the rose a perfect rose, and the lily a beautiful lily. It was on this plan that Froebel founded the Kindergarten.

He took nature for his teacher and followed her directions closely. He did not check children's plays, only directed them. He did not try to make Jane over into Sarah, even though Sarah might be the preferable one of the two; neither did he try to turn Frank into John; but to help Jane to become as good as it was possible for her nature to be, and to show Frank



and they have been introduced into the United States.

While children are of one species, yet they are of every conceivable variety. A successful gardener, Froebel argued, after much thought on the subject, studies the individual natures of his plants and puts each into such soil and atmosphere as best suits its wants so as to enable it to grow, flower and bring forth fruit to the very best advantage. A gardener never tries to change a rose into a lily, or a tulip into a pink, but tries to

how he could progress in the development of the gifts which God had given to him.

The Kindergarten is a school which seems like play all the time, only it is orderly play. It is big folks coming in and taking an interest in the children's world without checking the flow of their happy spirits. As the birds build nests, and men first provide themselves with shelter, so the children build houses or caverns in their play. They also like to dig the

ground in their play, and imitate in their little gardens the efforts of men in the cultivation of the soil. If they can get mud, they take delight in forming all sorts of articles out of it. If they can get a slate and pencil they will draw no end of figures. These early attempts are the first beginnings of development in art. As the first elements of art and industry show themselves in the activity of children, so likewise the gems of science are exhibited in the desire for knowledge. With its always repeated questions—why? wherefore? whence? the young mind searches for truth and its source—God.

The child's greatest desire, when it is able to walk, is to run to and fro, to go in all directions, to touch and take hold of everything with the hands. Every healthy child wants to be constantly in motion. The more its strength increases, the greater the necessity for exertion of all kinds, that drives the boy, especially, to games of running, climbing, jumping, throwing, lifting, which requires strength and skill. In a properly managed Kindergarten this disposition is directed, not repressed. The truth is recognized that *what gives pleasure to children generally and in all times, serves always for their development in some way.* The ceaseless activity of children some parents and teachers deem a plague; they would compel them, if they could, to keep still. They do not recognize the fact that as work develops man, so the plays of children serve to develop their limbs, organs and senses.

Nature prompts the child to use its hands constantly in play. There is a purpose in this. The hand is man's chief instrument for work. It is his sceptre in which lies a portion of his great power as king of the earth. Without the development of skill in the hand, industry and art are impossible. Nothing, therefore, is more contrary to nature than to forbid a child the use of its hands. Yet this is constantly done in the most of schools. That children may pay attention to the subject taught, they are required to fold their hands, or to cross them on the back. Frebel followed the hint of nature, and he found means to *chain the child's attention, by connecting all instruction given with the use of the hands.* How much more sensible is this than the old method!

For the sake of obtaining knowledge, the child makes experiments. It knocks different objects together, throws them down, tastes, tears and destroys. It is then called mischievous, and is sometimes whipped, yet these acts are but the manifestation of its desire to become acquainted with the quality and the use of things.

In the Kindergarten children's plays are made the subjects of the highest instruction. There the activity of children is not opposed, it is simply guided. In many primary schools teaching has consisted in keeping children still, or in urging them on till the brain is overtaxed. Seeing the evil of this some parents keep their children away from school, and suffer them to grow up untrained and neglected. But in the Kindergarten the exercises aim to draw forth the powers of children without wearying the brain. They are conducted on the principle that exercise is as necessary to the growth of the mind as the body—that one should not be sacrificed to the other, but they can and ought to grow together—mutually help each other.

The first lessons in the Kindergarten are given on the harmony of colors to very young children with colored worsted balls. They very soon learn to distinguish the primary and secondary colors, and to arrange them harmoniously. The differences of form are taught with the cube, the sphere, and the cylinder. Next comes a wooden box containing cubes of an inch in size by which symmetry is taught. The child is left as much as possible to his own ingenuity—he conceives a plan and carries it out—he has a thought and embodies it. Not only chairs, tables, sofas, trains of cars, churches, are built of these blocks, but the simple rules of arithmetic are taught by them, and an ingenious teacher brings out whole pictures. For instance a lighthouse is perched on a high point, some blocks

represent rocks to be avoided and ships sailing in the ocean; or a flock of sheep with a wolf prowling about and a boy with a dog and gun to seize the wolf and save the sheep; so every picture has a story and every story a picture.

Drawing is one of the most useful and attractive means of instruction. A very small child can be taught to use the pencil, and his drawings soon become quite wonderful to himself. He need not be limited to things about him, but draw from his own fancy; and drawing pictures on the slate is one of the things that children seldom tire of. Some of the larger children make little baskets of fanciful shapes by means of short pieces of wood which the boys cut to the required length with pocket-knives. They also make various geometric forms, cubes, triangles, and are drawn out by questions in describing them, in seeing the difference between an oblong and a square, so they gain a practical knowledge of geometry. The girls like to make ornamental mats, book-marks, etc., with slips of colored paper by interlacing them into geometrical patterns requiring much ingenuity, and an observance of the harmony of colors. This work does not suit the boys as it requires clean fingers. The most popular work with them is modelling in clay which is very fascinating. Without being directed, this taste crops out in their making mud-pies and snow-houses and forts. With a teacher to direct, out of clay, wax or rice, cups and saucers, mugs, birds, horses, fruit and flowers are very cleverly modelled. Whenever it is possible they have the natural objects to imitate. These exercises are alternated with amusing plays such as pigeon-house, peasant, stir-the-mush, puss-in-the-corner, etc. The processes of nature and art are symbolized by the plays, the teacher and little ones enjoying them alike.

The pigeon-house is described as a pretty play. The teacher takes three-quarters of the number, and forms them into a circle, while the other quarter remains in the middle, to represent the pigeons. The circle is the pigeon-house, and sings the song, beginning with the words:

“We open the pigeon-house again,”

while, standing still, they all hold up their joined hands, so as to let all the pigeons out at the word “open;” and as the circle goes round singing,

“And let all the happy flutterers free,  
They fly o'er the fields and grassy plain,  
Delighted with glorious liberty,”

the pigeons run round waving their hands up and down to imitate flying. At the word “return” in the line,

“And when they return from their joyous flight,”

the joined hands of those in the circle are lifted up again and the pigeons go in. Then the pigeon-house closes round them, bowing their heads, and singing,

“We shut up the house and bid them good-night,”

which is repeated while the circle swings off and again comes together bowing.

The play can be done over till all in turn have been pigeons.

Object teaching is translating things into words instead of turning words into things. A child first has the object to examine, he tells the color, form and properties, he is helped to describe it, and so he learns the meaning of words—the idea, the image first and then the word to represent it. The only way to make words expressive is to associate them sensibly with the objects to which they relate. Let a child, himself, hammer out some substance with a mallet and he will never forget the meaning of malleable. Practical knowledge becomes at once power. The study of objects not only gives meaning to words, but it educates the senses and produces the habit of attention and investigation of nature. It is the action of the mind upon real things.

Thinking is taught before reading, and this school does away with the usual way of learning the alphabet and dispenses with the tedious, meaningless a, b, abs, which every one scowls to

remember. The children begin with whole words which are sure to interest them, for a word may be full of thoughts to a child while a letter is entirely empty. The teacher may print the letters on the blackboard, and the children imitate with pencil on slate. Learning to read in this way becomes as easy and agreeable as eating and drinking, and is as eagerly sought after as play by a child. It is not simply an effort of memory, but a development of mind. It is with the understanding the child learns to read.

## HISTORY OF THE CHURCH.

(Continued.)

THE condition of the Saints in Nauvoo strongly excited the sympathies of the people in the Camp of Israel, at Winter Quarters, and teams and means were freely contributed, and sent back to aid them. A good many of the people scattered up and down the river, some going to St. Louis and others to Burlington, but all who wished to move westward had the opportunity offered them, and they were brought on to the main camp by the teams which had been sent back.

While these things were passing at Nauvoo, the Saints in the Camp of Israel were laboring diligently to prepare themselves for the winter. A committee of twelve was appointed to arrange the city into wards, over each of which a bishop was appointed to preside, whose duty it was to relieve the poor and sick, help the families of those in need, and to see that the Saints attended to their duties. The following is the list:

First ward, Levi E. Riter; second, William Fossett; third and fourth, Benjamin Brown; fifth and sixth, John Vance; seventh, Edward Hunter; eighth, David Fairbanks; ninth, Daniel Spencer; tenth, Joseph Mathews; eleventh, Abraham Hoagland; twelfth, David D. Yearsley; thirteenth, Joseph B. Nobles.

Every family labored diligently to construct some kind of a house, in which they could be sheltered for the winter. The houses were built chiefly of logs, and covered with clapboards, or with willows and dirt. Many dug eaves in the side of the hill, and made very comfortable dwelling places of them.

Winter Quarters was laid out regularly into streets, and occupied a fine location. The Indians gave considerable trouble, stealing cattle and pilfering. They looked upon the Saints as intruders upon their lands, and they said that if their land was occupied, their grass used, their timber cut down, and their game shot, they had a right to something in return, and therefore being in want of food they helped themselves to cattle belonging to the Saints. The chief, Big Elk, said he would do all he could to restrain his people, but he had bad young men among them who would not be controlled, and he could not prevent them stealing when the cattle were all around them. They did not like white people, and they did not like him very well, because he told them that the white men would do them good. The conduct of the Indians prompted President Young to counsel the people to build a stockade around Winter Quarters. This was a great protection, and kept the Indians out to a very great extent. A large portion of the stock was sent north, on to what was called the Rush Bottoms—a place where rushes grew in great profusion, and furnished excellent feed for animals, if given to them carefully. If eaten too freely, or if eaten when the weather was cold enough to freeze the water contained in the top part of the rush, they were dangerous, and sometimes killed the animals that ate them.

Bishop Miller's camp, as he himself reported to the Twelve at Winter Quarters, was at the junction of the Running Water and Missouri rivers, a hundred and fifty-three miles north of Winter Quarters. He reported his camp in good ~~form~~ <sup>form</sup> and occupying a good situation, with plenty of feed for their stock in the rushes of the Running Water.

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Language can scarcely convey a correct idea of the sufferings endured by the fugitives from Nauvoo in their hurried flight to escape the tortures of the mob, who seemed so bent on disregarding the stipulations of the very unjust treaty they had forced from them. Boys raised in this Territory think it no hardship to be obliged to sleep on the ground in the open air in the month of October, nor indeed to go into the kanyons almost any time of the year and spend the night thus, without other shelter than their bed clothes, but in Illinois and Iowa the climate is not so favorable to health as is that of this Territory. It is more damp. Even many who took the greatest care of their health and had comfortable houses to live in suffered a great portion of the year from the ague, and chills and fever, caused in great part by the malaria arising from the decaying vegetation in the swamps and low lands. The condition of the Saints, exposed as they were, was truly deplorable. Many moved across the river to the opposite bank from Nauvoo and others scattered off in different directions, sheltering themselves as best they could; some forming rude tents with quilts or blankets, and others being only able to cover themselves with a bower made of brush. To add to their misery what little clothing they possessed was, for a great portion of the time, drenched with rain, and instances are now related by person living who passed through those scenes of their having for days watched at the bedside of the dying while they could only afford a partial shelter to the prostrate form by holding milk-pans over it, to catch the falling rain as it dripped through the thin wagon cover. Some of the most influential men among them visited cities in the adjoining States and asked aid from the able and generous for those of their brethren and sisters whose sufferings they tried to depict. By this means partial relief was obtained for some, but the majority of the sufferers were unable to better their condition until they had slowly worked their way into Iowa or Missouri and obtained employment of some kind, or were helped by teams sent back by those who had previously left Nauvoo.

(To be continued.)

WHAT A SPIDER CAN DO.—Let me put a spider into a lady's hand. She is aghast. She shrieks. The nasty, ugly thing! Madame, the spider is perhaps shocked at your Brussels lace, and although you may be the most exquisite painter living, the spider has a right to laugh at your coarse daubs as she runs over them. Just show her your crotchet when you shriek at her. "Have you spent half your days," the spider, if she be spiteful, may remark,—"have you spent half your life on these clumsy ottoman covers? My dear lady, is that your web? If I were big enough, I might with reason drop you and cry out against you. Let me spend a day with you and bring my work, I have four little bags of thread—such little bags! In every bag there are more than 1000 holes—such tiny holes! Out of each hole a thread runs, and all the threads—more than 400 threads—I spin together as they run, and when they are spun they make but one thread of the web I weave. I have a member of my family who is herself no bigger than a grain of sand. Imagine what a slender web she makes, and of that too, each thread is made of 4000 or 5000 threads that have passed out of her four bags through four or five thousand holes. Would you drop her too; crying out about your delicacy! A pretty thing for you to plume yourself on your delicacy and scream at us." Having made such a speech we may suppose that the indignant creature fastens a rope round one of the rough points of the lady's hand, and lets herself down lightly to the floor. Coming down stairs is noisy, clumsy work, compared with her way of locomotion. The creeping things we scorn are miracles of beauty. They are more delicate than any ornate clock or any lady's watch made for pleasure's sake, no bigger than a shilling.

# The Juvenile Instructor.

GEORGE Q. CANNON - - - EDITOR.

SATURDAY, JANUARY 18, 1873.

## EDITORIAL THOUGHTS.

**D**URING the building of the railroad from the Missouri river to San Francisco, great expectations were entertained and expressed by many as to the changes, of a desirable character, which its completion would bring about in Utah. It was asserted that it would greatly improve the condition of the people here, by causing the development of the rich mineral deposits believed to abound in the Territory, thus increasing both labor and money; and that it would also very much cheapen all kinds of merchandise, whether produced at home or imported, by lowering its transportation from the east and west, and in fact from all parts of the world. All of these expectations have been realized, and we all know that, as a general thing, the people of Utah to-day possess and enjoy more of what are called the comforts of life than they did before the period we have referred to. So far then, the changes brought about are beneficial, because all like to have as many comforts as they can possibly procure.

But the good which has thus been effected is by no means unmixed with evil, and when all things are considered, it is rather hard to say whether the increase of that which is desirable has not been more than set off or balanced by the increase of evil. Let us examine briefly and try to form correct ideas and to draw true conclusions on this subject.

Virtue is the parent of happiness, and without the former the latter can never be possessed, whether by individuals or whole communities. Before the completion of the railroads in Utah, its inhabitants were noted, the world over, for their temperance, industry, virtue and almost every excellence which can adorn human character, and the community at Salt Lake was frequently referred to by travelers and writers as a model for all others. And the praises bestowed were merited, for in those days a drunken man was very seldom seen in Utah, an oath was scarcely ever heard; a drinking saloon did not exist in the entire Territory, and crimes of any kind were almost as rare as snow in harvest time.

But how is it now? A striking change in these respects has been brought about. Go into almost any of our principal cities now, and drinking saloons and drinkers can be found, while in Salt Lake City, the Territorial capital, in which public opinion would not tolerate one a few years ago, they are now quite numerous. Besides this, profanity is common, and you can not walk the streets without hearing the name of the Deity taken in vain, coupled with curses and vile language. Crime is also on the increase, and, as shown by the report of the Chief of Police, submitted to the Mayor and City Council, a few days ago, there were more offences against the laws committed in this city in the year 1872, than ever known in any year before, and probably more than in all the years put together from the arrival of the Pioneers to the completion of the Pacific Railroad. Litigation has also increased in a corresponding degree, and where there was one lawyer in this city formerly there are now ten or fifteen. This is what might be expected, but perhaps no greater proof could be mentioned, of

the increase of corruption and evil in any community than the increase in number of those who prosper thereby.

Other evils of a social, and moral, or rather of an immoral, nature might be referred to, which now mar the face of society here, and show, that at least in some of our chief cities, the practices and evils which flourish and contaminate society in the Christian world, are finding a foothold in Salt Lake.

We might, but do not consider it necessary, quote circumstances which would show that the railroad and the mines have not been the only causes which have operated to produce here the undesirable changes that we have mentioned. They have done their part; but the history of the Territory, for the past three or four years, proves beyond dispute that evil and crime have been increased by the encouragement given to their perpetrators, by officials, inspired and actuated by hate of the "Mormon" people, whose sole business it ought to be, for it is what they are sworn to do and what they are paid for, to check crime and punish those who commit it. But without occupying your time, or our space with further reference to these men, we will close by asking you, young readers, which of the two states of society you think most healthful or most desirable, the one in which the tastes of the people are frugal and simple, their habits economical, their practices virtuous, and they living together in unity and harmony; or the one in which a love of fashion is very general, extravagant and luxurious tastes cultivated, the practices of numbers, some professing to be Saints, lax and marked by impropriety, while intemperance and kindred vices are unblushingly indulged in by many, not professing to be Saints, it is true, but Saints have to associate more or less with the evildoers referred to, and the influence of their evil examples are seen and felt on every hand? The state of society first mentioned is that which prevailed over the whole of this Territory a few years ago—the result of the rule and administration of the Priesthood; the latter is the one which is growing in some parts now under the influence of 19th-century progress and civilization.

In future numbers we shall endeavor to show, in the "Editorial Thoughts" that while the prevalence of evils we have referred to, looking at it superficially is much to be deplored, yet it is permitted in the providences of God to bring about a portion of his own plans. We shall also make an effort to show the effects, of the influences now operating, upon the young, and the duty of their parents and Sunday school teachers to adopt measures to shield them from the contamination to which they are exposed.

## TO MY DAUGHTER ANNIE.

[or the Juvenile Instructor.]

My dear little daughter, your letter to me  
Made me as happy, as happy could be,  
And as I unfolded the neat little sheet  
The scent of the rose leaves you sent were so sweet,  
They were sent I presume a token to prove  
The faithful endurance of my Annie's love.  
A more fitting emblem you could not have sent  
Than those fragrant leaves, you choose to present;  
The flowers were dead, but their fragrance remained;  
Though plucked from the stem their beauty retained,  
Thus showing that father though absent from home,  
His presence thus lost, yet the love was not gone.  
And thus 'lls with me, though my Annie's not here  
You still in my memory are ever as dear  
As when I was home, and you stood at the gate  
And gazed up the street, when you thought I was late,  
And ran out to meet me, and told me you know  
As you kissed my hand—"Oh, Pa! I do love you so."  
And as the sweet rose leaves their odors impart  
They bring this remembrance so dear to my heart,  
Of Annie's and Tenie's and Albert's love too,  
Three sweet little loves I am thinking, don't you?  
And I waft you a blessing back over the sea,  
For you know I love Annie, and Annie loves me. S. S. J.

## THE RACK.

WE are going to tell you something in this number about the rack—one of the most terrible instruments of torture ever invented, or used by man to make his fellow man mourn. You see that the outline of this instrument, represented in the picture, is something like a door frame. A short distance from each end of the frame is a movable roller which is turned by means of a lever in the hands of the torturers or executioners. On each of the rollers two ropes are fastened, the other ends of which are tied round the wrists and ankles of the condemned. This forces him to lie down, and he is then ready for the torture, which is caused by turning the rollers, each turn straining the joints and limbs of the sufferer, and causing an increase of agony.

The rack has been invented for a long period of time, but by whom we can not tell you; we do not think the inventor's name is known, and if it were it would not be likely to be honored much, for only the benefactors of men are deserving of men's honor and respect. We do not believe that this abominable instrument is used

anywhere in the world now; it used to be a good deal in some of the nations of southern Europe to put criminals to death. One was made in England in the reign of Henry the Sixth, in the 15th century. It is now to be seen in the Tower of London. The most terrible instance of the execution of a criminal on the rack is that of Ravillac, the man who killed Henry the Fourth of France while the latter was riding in his carriage in the streets of Paris. This murder was committed in the year 1610, the murderer sticking a knife into the king's heart.

For this crime he was condemned to death by the rack, accompanied by the most brutal and savage tortures that, perhaps, any man ever endured. In his right hand was fastened the knife with which he did the murder, both hand and knife being then burned in a slow fire. After this, pieces of flesh were torn from the tenderest parts of his body with red hot pincers, and into the wounds thus made, melted lead, oil, pitch and rosin were poured. The victim, being a very strong man, was enabled to bear all this and still live. His body was then bound to the rack, which was so made that it could be worked by horses, and four of these animals being attached to it, they were whipped in opposite directions, until the body of Ravillac was torn asunder. Could anything be more horrible? The crime which he had committed was of a diabolical character, but the punishment awarded was what might have been expected only from the very worst kind of savages, and not from a great civilized nation. But the France of the 17th century and

the France of the 19th are happily very different in these respects, and if a modern Ravillac should assassinate ten kings, public sentiment to-day, among any civilized people in the world would prevent him being subjected to torture beyond that of a speedy death by hanging or decapitation.

Now we must tell you the strangest part of the history of the rack. From what you have already read you have learned that great criminals were sometimes put to death with it; but it was put to a far worse use than this. You read in the last number something about the religious persecutions of the Vaudois or Waldenses. Well, religious persecutions have taken place in many other portions of Europe as well as in the valleys of the Alps, nearly all of them having been marked by the most savage brutality. These European religious wars have nearly all been among different sects of those who claimed to be followers of Jesus Christ, professors of the Christian religion. "By their fruits ye shall know them" said Jesus, and judging them by this standard, they certainly had not the least claim to be

considered Christians. The Author of the Christian religion is very properly called the Prince of Peace. At His birth the angels sang "Peace on earth, and good will to men." During His earthly mission His great object was to spread peace among men, and to induce them to let its principles have full influence over their hearts and actions; yet in the face of His recorded teachings, so plain that they could not be misunderstood, those who claimed in past ages to be the most valiant defenders of His gospel and truth often took each

others' lives, and inflicted upon each other the most horrid cruelties. One of the favorite instruments used by some of these false Christians was the rack, and many poor souls, who, like the Vaudois, would not believe as they were told to by those claiming to be Christ's servants and ministers, but would use their own judgment and reason as to the proper way of worshipping and serving God, have been confined in prison, and then punished with the torture of the rack, to make them confess sins which their cruel persecutors believed them to be guilty of, or to punish them after having confessed.

Happily, the rack has long since gone out of use, but the inconsistencies and intolerance of those calling themselves the followers of Christ still exist, though manifested in a different way. We still hear of Christian nations going to war with and slaughtering each other by thousands, each praying to the same God for victory. This is one among the glaring inconsistencies of which Christians, or so-called Christian nations are guilty.



What a different state of things we should behold if their professions of Christianity were sincere! Then ambition and all the baser passions by which they are now actuated would be overcome, and all Christians, no matter what their nationality, would be brothers, and would dwell in harmony.

To prove that the intolerant spirit which animated the professors of Christianity ages ago still exists, we need only refer to the history of our own Church. The Latter-day Saints, like the Waldenses of Italy, have claimed the right to worship God according to their own notions, and for doing so, even in this age, which boasts so much of its enlightenment and progress, they have, during the last forty years, endured the bitterest persecutions, and hundreds, perhaps thousands, have lost their lives; and the crusade still continues. True, the rack has disappeared, but the hate felt for Truth, pure and undefiled, by the adherents of the bogus Christianity which has so long cursed the world, still lives and is as vigorous as ever; and its influence will cause the righteous to suffer more or less, until the time when the Prince of Peace shall be Lord of all men's hearts, and the principles He taught shall be universally honored and practiced.

(For the *Juvenile Instructor*.

## Chemistry of Common Things.

### ELEMENTS.

**G**REAT strides are being made by means of the spectroscope in acquiring knowledge pertaining to the elements, although no new elements of any importance have been discovered since the names and nature of the elements were described to our young readers. An idea may be formed of the principle upon which such bodies are analyzed by means of the above instrument, by noticing the colors emitted by burning bodies. The word spectroscope is compounded of two words that mean "images" and "to see." When different gases are enclosed in sealed tubes in such a manner that they cannot be burned (oxydized), they may be raised to a state of incandescence, that is, they may be made red hot, or white hot, or any other color they are capable of manifesting. It is usual to test gases thus enclosed by means of an electric coil; we have read about the intense heat that may be evolved by this means. When hydrogen is thus treated a fine ruby red light is seen, nitrogen exhibits a magnificent violet light, oxygen a greenish white, sulphurous acid, blue; carbonic acid, violet etc. Now it is found that when elements are mixed as well as when simple, their spectra may be examined and the nature of the gases they consist of determined. In this way some new metals (elements) have been discovered by chemists, but they are merely regarded as chemical curiosities at present.

The word element means a body that cannot by any known means be made into something else by decomposition, chemists do not assert that no such change is possible, but simply that no such change is proved. For instance, iron heated in any way, either mechanically or chemically, continues to be iron; pulverize it, scatter it to the winds, dissolve it, burn it, so that its particles are removed as vapor, it is still iron. The same may be said of gold, or of any other element, chemists cannot take from either anything different to the element itself. If we take the substance known as iron pyrites we may take away sulphur and iron remains; it is no longer pyrites, but metallic iron and sulphur, two simple, because undecomposable, elements. Take a bar of iron and make it red hot then apply to its burning surface a roll of brimstone, immediately chemical union takes place, iron pyrites is formed, not crystallized, simply

because the conditions of formation are not such as are required to bring about crystallization. In this case the iron and sulphur have *changed their form*, as elementary bodies they are the same.

Many of the elements (metals) were known to the ancients. Gold, silver, mercury, copper, iron, tin and lead were distinguished by them by the name of some particular planet, with which they were supposed to have some mysterious connection. In old alchemical works the sign of a planet frequently means a metal, probably the meaning was concealed from the untaught in alchemy by such contrivances.

All the elements are either metals or not; some of them are gas. The air we breathe is composed of two very abundant elements, oxygen and nitrogen; water is composed of oxygen and hydrogen, another gas. Carbonic acid gas is formed of carbon and oxygen, a gas and a solid mutually dissolved by and chemically combined with each other. The changes that matter undergoes in passing from one form to another are frequently as wonderful as those we read of in works of fiction. It is impossible to know what will take place with certainty when elements or compounds are brought together and again re-combined, unless we have been informed, either by our own experience or that of others.

It is well to get by heart the names of the most important elements, their signs and equivalent values, they may be found in any of the numerous works on elementary chemistry. The use of the equivalents cannot be over estimated as they are based on the now well known law of chemical proportion. When we see oxygen, O, 8, hydrogen, H, 1, carbon, C, 6, nitrogen, N, 14, etc., as we see in the table of chemical equivalents, we have only to memorize the most important to enable us to become acquainted with the most important chemical compounds, for they are compounded of these. For example, in a chemical table we may see the elements of which water is composed and the proportions in which they are combined to form that substance known as water, the symbol of which is H O. The atomic weight or equivalent of H is 1, that of O is 8. When we read the symbol with reference to its *weight* we see that water is 9; 1 plus 8. This means that 1 of hydrogen combines with 8 of oxygen, one pound of hydrogen combines with 8 pounds of oxygen to form 9 pounds of water. BETH.

### ANECDOTES OF HORSES.

(Concluded.)

**T**HE following is a strange instance of affection between a pony and a lamb, the property of a man named Thomas Rae, a blacksmith, living in an English village. Mr. Rae purchased the lamb from a drover passing along with a flock. He put it into a field in which were a cow and a white pony. The lamb soon took a great fancy for the pony, and the latter showed equal fondness for the lamb, and no matter where the former went or what work he was doing the lamb would follow him unless prevented by force, and then it would bleat and cry pitifully. When the pony was stabled for the night, the lamb would lie at his head under the manger. The way in which they showed their fondness for each other was so unmistakeable that persons would sometimes gather round them to witness it. On such occasions the lamb would seek shelter under the pony's belly, and would take a peep now and then by popping his head out between the fore or hind legs of his companion and friend.

Stranger than the above, is an instance, given on good authority, of a fondness which grew up between a horse and a hen. They spent most of their time in an orchard, of which they were the only occupants. By degrees they began to show a liking for each other, and the hen would go near the horse, and "cluck" in a very pleased and satisfied manner, at the same time rubbing against his legs. The horse seemed to understand

the liking of the hen, and to return it, for he would move his feet very cautiously lest he should tread on her.

Dr. Smith, of the militia of Queeu's County, Ireland, had a horse and a Newfoundland dog, between which very great affection existed. The dog's name was Cæsar, and both dog and horse were very intelligent. The doctor used to ride the horse when visiting his patients, and on dismounting near the door of a house he was about to enter, he would place the horse's bridle in Cæsar's mouth, and in the most crowded parts of a city, dog and horse would quietly await the doctor's return. If he had to visit another patient a few doors off he would walk, and calling to his dog he would follow, leading the horse by the bridle as far as the door of the house their master had entered, where they would remain until his return. Sometimes the doctor would go to the stable and placing the bridle on the horse, he would put the reins in the mouth of the dog and tell him to take the horse to water. Both dog and horse would understand, and away they would go, playing and gambolling with each other to a stream about three hundred yards away; and after the horse had drunk they would return in the same playful manner to the stable.

The excellent memory and great sagacity of the horse are well shown in the following: A draught horse belonging to a Mr. Leggat, of Glasgow, had been several times cured of the bots, by a farrier named Downie, to whose place of business the animal had been taken to be treated. He had not been afflicted for some time, but the disease again made its appearance, and unattended the horse one day, in the temporary absence of his driver, left his work and went a distance of more than a mile to the farrier's shop. The doctor knew the horse and thinking that he might again be in need of treatment, he had him unhitched, when the animal lay down and did all he could to show that he was suffering. The help he needed was given to him, and he was sent home to his master.

Many more anecdotes equally as strange as any of the preceding might be quoted, showing that the horse is one of the most intelligent and knowing animals in the brute creation; that he is grateful, affectionate and docile, revengeful, cruel or obstinate, according to circumstances, taken in connection with his natural disposition and the education and treatment he receives; but as all this has been illustrated in the anecdotes already given, we shall finish with the following amusing and wonderful account of the sagacity of an ass, given in a work published in the 16th century, which the writer says he saw while travelling in Egypt:

"When the Mohammedan worship is over, the common people of Cairo resort to that part of the suburbs called Bed-Elloch, to see the exhibition of stage-players and mountebanks, who teach camels, asses, and dogs to dance. The dancing of the ass is diverting enough; for after he has frisked and capered about, his master tells him that the sultan, meaning to build a great palace, intends to employ all the asses in carrying mortar, stones, and other materials; upon which the ass falls down with his heels upwards, closing his eyes, and extending his chest, as if he were dead. The ass lies in the same posture, notwithstanding many blows; till at last his master proclaims, by virtue of an edict of the sultan, all are bound to ride out next day upon the comeliest asses they can find, in order to see a triumphal show, and to entertain their asses with oats and Nilc water. These words are no sooner pronounced, than the ass starts up, prances, and leaps for joy. The master then declares that his ass has been pitched upon by the warden of his street to carry his deformed and ugly wife; upon which the ass lowers his ears, and limps with one of his hind legs, as if he were lame. The master alleging that his ass admires handsome women, commands him to single out the prettiest lady in the company; and accordingly he makes his choice, by going round and touching one of the prettiest with his head, to the great amusement of the spectators."

## QUESTIONS AND ANSWERS ON THE BOOK OF MORMON.

### CATECHISM FOR SUNDAY SCHOOLS. (Continued.)

#### LESSON XI.

Q.—What did Lehi do previous to his death?

A.—He called all his household together and all the members of his company, and gave each of them a charge to keep the commandments of God, and to be guided by the counsels of Nephi.

Q.—Did they, after his death, obey his counsels?

A.—No; they were angry with Nephi and they sought to take his life.

Q.—Who did this?

A.—Laman and Lemuel and the sons of Ishmael.

Q.—What was the pretended cause for seeking to take Nephi's life?

A.—Because they said he was their younger brother and wanted to rule over them; and they claimed that it belonged to them, the elder brothers, to be the rulers.

Q.—What was Nephi told to do?

A.—He was warned of the Lord to depart from them and flee into the wilderness.

Q.—Did he go alone?

A.—No; he took his family, his brother Sam and his family, Zoram and his family, his brothers Jacob and Joseph and also his sisters.

Q.—In what did they differ from the rest of the company?

A.—They believed in the warnings and revelations of God.

Q.—Under what law did they live?

A.—The law of Moses.

Q.—What did they call the land to which they journeyed?

A.—Nephi.

Q.—What did they call themselves?

A.—The people of Nephi.

Q.—What did they raise?

A.—Grain in great abundance, flocks and herds, and animals of every kind.

Q.—Who kept the records and the compass and the sword of Laban?

A.—Nephi.

#### LESSON XII.

Q.—What were the other people called who stayed with Laman and Lemuel and the sons of Ishmael?

A.—They were called Lamanites.

Q.—Did they have good feelings towards the Nephites?

A.—No; they hated them and desired to destroy them.

Q.—What did Nephi do to arm his people?

A.—He made swords for them like the sword of Laban.

Q.—What kind of work did he teach his people to do?

A.—To build buildings, to work in wood, iron, copper, brass, steel, gold, silver and other metals.

Q.—What kind of a building did he erect?

A.—A temple, after the manner of Solomon's.

Q.—Were there as many precious things in it as in Solomon's?

A.—No; they could not be found upon the land; but it was constructed like Solomon's.

Q.—What curse came upon the Lamanites?

A.—A skin of blackness.

Q.—What kind of a people did they become?

A.—An idle people, full of mischief and subtlety.

Q.—How did they live?

A.—By killing beasts of prey.

Q.—Do you know any people who live like this?

A.—Yes; the Indians.

Q.—Who are the Indians?

A.—They are Lamanites.

Q.—What did the Lord say to Nephi concerning the Lamanites?

A.—That they should be a scourge unto his seed to stir them up in remembrance of the Lord.

Q.—What more did He say concerning them?

A.—That if his (Nephi's) descendants did not hearken unto His words the Lamanites should scourge them until they destroyed them.

Q.—Did the Lamanites and Nephites live long in the promised land without wars?

A.—No; forty years had not passed until wars and contentions had begun to take place between them.

(To be continued.)

## QUESTIONS AND ANSWERS ON THE BIBLE.

### CATECHISM FOR SUNDAY SCHOOLS. (Continued.)

#### LESSON IX.

##### Subject—ABRAM RESCUES LOT AND PAYS TITHES.

Q.—How many kings went to battle?  
A.—Four against five—nine in all.  
Q.—Where was the battle fought?  
A.—In the vale of Siddim.  
Q.—What kings fled and fell in the slimepits?  
A.—The kings of Sodom and Gomorrah.  
Q.—Who was taken captive?  
A.—Lot, Abram's brother's son, who dwelt in Sodom  
Q.—What did Abram do when he heard this?  
A.—He armed his trained servants and pursued the enemy.  
Q.—What success did Abram have?  
A.—He smote the enemy and brought back Lot, and his family, and all the goods that were taken.  
Q.—Who came out to meet Abram?  
A.—The King of Sodom.  
Q.—Who else came to meet him?  
A.—Melchizedek, King of Salem.  
Q.—What did Melchizedek bring with him?  
A.—Bread and wine.  
Q.—What was Melchizedek besides being King of Salem?  
A.—He was a priest of the most high God.  
Q.—What did Melchizedek do to Abram?  
A.—He blessed him.  
Q.—What did Abram do?  
A.—He gave Melchizedek tithes of all.  
Q.—What reply did Abram make when the King of Sodom wished him to keep the rest of the goods?  
A.—That he would not take the least thing, lest the King of Sodom should say he had made Abram rich.

#### LESSON X.

##### Subject—ABRAHAM ENTERTAINING THE LORD, ETC.

Q.—What was the name of Abram's wives?  
A.—Sarah and Hagar.  
Q.—Who was Hagar?  
A.—Sarah's handmaid.  
Q.—What was the name of Hagar's son?  
A.—Ishmael.  
Q.—What name was given to Abram?  
A.—Abraham.  
Q.—Why did the Lord call him Abraham?  
A.—Because He would make him father of many nations.  
Q.—What name was given to Sarah?  
A.—Sarah.  
Q.—Who appeared to Abraham as he sat at his tent door?  
A.—The Lord, and three men?  
Q.—What did Abraham say unto them?  
A.—He invited them to stay to have their feet washed, to rest under the tree, and to partake of his hospitality.  
Q.—What did Sarah make for them?  
A.—She made cakes upon the hearth.  
Q.—What animal did Abraham get from the herd?  
A.—A calf, tender and good.  
Q.—Who did Abraham give the calf to?  
A.—A young man, who hastened to dress it.  
Q.—What beside the cakes and calf did Abraham set before his guest?  
A.—Butter and milk.  
Q.—What promise did the Lord make to Sarah?  
A.—That she should have a son.  
Q.—What did the Lord make known to Abraham?  
A.—That He was about to destroy Sodom and Gomorrah because of their great sins.  
Q.—Did Abraham intercede with the Lord in their behalf?  
A.—Yes; and the Lord finally promised not to destroy Sodom if there should be found ten righteous men in the city.

(To be continued.)

[For the Juvenile Instructor.

## Correspondence.

The following letter from President George A. Smith to his daughter, in this city, which has been kindly furnished for publication in the JUVENILE INSTRUCTOR, will be interesting to our readers:

“ BRUSSELS, Belgium, Dec. 10th, 1872.

“ We started this morning from our hotel, eight of us, in an omnibus, and drove through a considerable portion of the beautiful city of Brussels and its environs. We entered what is here termed a wood. About one half of the country is under cultivation, the remainder is covered with trees, much resembling the tall forest trees in the northern part of the State of Ohio. The open ground, except some newly plowed fields, was all green—thousands of acres, covered with turnips, cabbage, kale and other vegetables. We saw women carrying large bundles of wool on their heads—one drawing a huge load of brush on a cart. Several others were guiding dogs that were attached to and drawing loaded carts. Our coachman called at an inn by the way, saying he wanted to feed his horses and give them some water. The food was slices of brown, coarse bread, which we tasted and pronounced tolerably good.

“ Soon after 12 o'clock we arrived at the battle field of Waterloo, where was fought on the 18th of June, 1815, one of the most sanguinary battles recorded in history. About one hundred and fifty thousand men were engaged for about ten hours in destroying each other. They covered the country for miles with their dead, dying and wounded—both men and horses. It is said that more than thirty-five thousand men died on the field, and many died afterwards of their wounds. All of the privates who were killed in battle were buried where they fell—friends and foes, French, English, Dutch and Germans, who had slain each other, were mixed indiscriminately; and the fields where they lay are now cultivated, and we walked over them. On the spot where the Prince of Orange was wounded, in fair view of a large portion of the battle field, the Dutch government has erected a mound of earth, two hundred and forty feet high, on the top of which is a lion made of cast iron, cast in six parts, and weighing forty-eight thousand pounds. This lion is placed in a position which represents it looking toward France, which gives offence to many of the French people.

“ The view, from this height, of the battle field and its surroundings, is truly grand and beautiful; we enjoyed it much although while there we were exposed to a pelting rain. While contemplating this scene, and the melancholy circumstances connected with it, my thoughts reverted to a saying of President Joseph Smith, while on an ancient Lamanite battle field, in Clark Co. Ohio, in 1834. “ When a man of God is in a place where much blood has been shed, he will feel lonesome and depressed in spirits. This spot has been an ancient battle field, I know by my feelings.” In a few moments we came to an immense mound of earth, sixty feet high—covering an acre of ground. This mound contained many human bones, and was, doubtless, like the Dutch monument of Waterloo, erected to perpetuate the memory and also to bury the dead of a great battle.

“ Our party consists of myself, Lorenzo Snow, Eliza R. Snow, Feramorz Little, Clara Little, Paul A. Schettler, George Dunford and Thomas Jennings.

“ I should have said that while we were walking over the ground on which the battle of Waterloo was fought, Thomas Jennings picked up a bullet which was lying on newly ploughed land, which is a genuine relic of the battle.

“ Your loving father,

GEO. A. SMITH.”

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